Installation and Operation Manual

MOUNTAIN SERIES

Stone Hearth Oven

Wood with Gas Assist

MT. CHUCKANUT
WS-MS-4-W-IR

MT. ADAMS
WS-MS-5-W-IR

MT. BAKER
WS-MS-6-W-IR

MT. RAINIER
WS-MS-7-W-IR

Wood Stone

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Revised May 2015
Part no: 9500-0201
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An ongoing program of product improvement may require us to change specifications without notice. **WS-MS-(4, 5, 6, 7)-W-IR, Revised May 2015.** **Doc no: M0036.04**

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INSTALLATION AND OPERATION MANUAL
THE WOOD STONE MOUNTAIN SERIES

STONE HEARTH COOKING EQUIPMENT

WS-MS-(4,5,6,7)-W-IR MODELS

WOOD/GAS COMBINATION OVEN

ADDITIONAL COPIES AVAILABLE UPON REQUEST

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INSTALLATION AND OPERATING INSTRUCTIONS FOR THE WOOD STONE MOUNTAIN SERIES WOOD / GAS COMBINATION (IR-W) OVEN

RETAIN THIS MANUAL FOR FUTURE REFERENCE

Additional copies of this manual at woodstone-corp.com.
For prompt responses to service/maintenance questions, call us at @ 1-800-988-8103.

FOR YOUR SAFETY: Consult your local gas supplier for a statement outlining a procedure to be followed in the event you smell gas. Post the statement in a prominent location.

READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING THIS APPLIANCE

Please read this entire manual before you install the oven. Failure to follow instructions may result in property damage, bodily injury or even death. Contact your local building or fire officials about restrictions and installation inspection in your area.

WHEN THE OVEN IS NOT PROPERLY INSTALLED, A FIRE MAY RESULT.
TO REDUCE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTION.

FOR YOUR SAFETY: Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance. Also, always keep the area under and around this appliance free and clear of any and all combustible materials.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or freshen-up a fire in this oven. Keep all such liquids well away from the oven when in use.

IN THE EVENT OF A POWER FAILURE, NO ATTEMPT SHOULD BE MADE TO OPERATE THE OVEN.

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A MAJOR CAUSE OF OVEN RELATED FIRES IS A FAILURE TO MAINTAIN REQUIRED CLEARANCES TO COMBUSTIBLE MATERIAL. IT IS OF UTMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

USE SOLID WOOD FUEL ONLY
DO NOT USE PRODUCTS NOT SPECIFIED FOR THIS OVEN

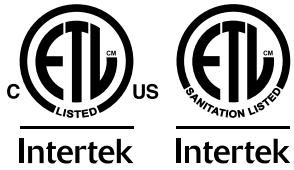
CAUTION: DISCONNECT POWER TO THE OVEN BEFORE SERVICING OR CLEANING.

IMPORTANT: It is recommended that this oven be installed, maintained and serviced by authorized professionals.

WARNING: This product must be installed by a licensed plumber or gas fitter when installed within the Commonwealth of Massachusetts.

SAVE THE INSTRUCTIONS

Wood Stone's gas-fired ovens have been tested and approved by Intertek Testing Services, and are ETL Listed to ANSI Z83.11b - 2009, CSA 1.8b-2009, UL Subject 2162, ULC-S627-00, UL 737 and to NSF/ANSI Standard 4 - 2009.



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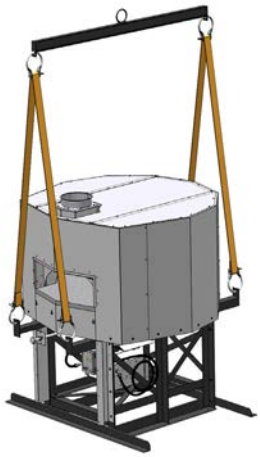
LIFTING THE OVEN

1. USING A CRANE

The oven arrives with four lifting eyes attached. When craning a Wood Stone oven, use a spreader bar with a two-legged sling rigged on each end. The spreader bar should be of a sufficient length to keep the sling from contacting the oven.

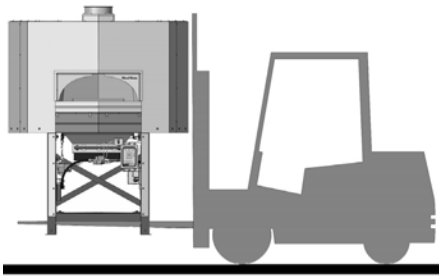
NOTE: Once lifting eyes are no longer needed, remove the lifting eyes one at a time **AND BE SURE TO REPLACE THE BOLTS THAT ATTACH THE OVEN TO THE STAND.**



2. USING A FORKLIFT

Be sure to use a forklift rated, and forks the minimum length, as shown in the table below. If necessary, fork extensions must be used so the forks extend through the fork lift pockets to the opposite side of the stand. Lift from either side as shown. Do not lift from the front or back. The oven is very top heavy, so spread the forks as far apart as possible.

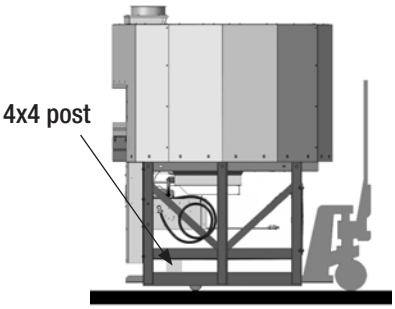
Model	Oven	Approximate shipping weight	Minimum fork length required	Required forklift capacity
WS-MS-4	Mt. Chuckanut	2,400 lbs.	4'	5,000 lbs.
WS-MS-5	Mt. Adams	3,600 lbs.	5'	6,000 lbs.
WS-MS-6	Mt. Baker	4,600 lbs.	6'	6,000 lbs.
WS-MS-7	Mt. Rainier	6,000 lbs.	7'	9,000 lbs.



3. USING A PALLET JACK

Once the oven has been removed from the delivery vehicle, it can easily be moved on flat surfaces using a pallet jack. To lift the oven with a pallet jack, remove the front and rear angle iron stabilizers from the base of the oven stand and place a stout 4x4 post through the fork pocket as shown.

THE OVEN IS VERY TOP-HEAVY. MOVING THE OVEN UP OR DOWN A RAMP OR INCLINE ON A PALLET JACK IS NOT SAFE!



DO NOT TURN THE OVEN ON ITS SIDE!

Contact Wood Stone if the oven must be turned on its side for specific instructions. Moving a Wood Stone oven can present challenges to even the most experienced riggers. Take your time, use your head, secure the proper equipment and make safety your first priority. Please don't hesitate to call the factory for technical support.

DELIVERY NOTE: The customer will receive an Oven Shipping Notification when the oven leaves the Wood Stone factory. This will include a PRO# and a trucking company contact number. Wood Stone recommends that you confirm the delivery date/time with the trucking company before committing to heavy equipment and/or labor. Our goal is a smooth and safe delivery.

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CLEARANCES

1. The Wood Stone gas-fired oven must have a **minimum 1" clearance to combustibles from all sides, and 14" clearance to combustibles from the top** (see INSTALLATION CLEARANCES section on next page). If building a facade that will contact the oven, use completely non-combustible materials*. Please note that standard Drywall (or Sheetrock) is considered a combustible.
2. Any facade materials 6" to either side of the oven doorway and above must be constructed of non-combustible building materials.
3. Install this oven only on a non-combustible floor surface. (Cet appareil doit être installé sur une surface de plancher non-combustible.) The non-combustible floor surface should extend 36" out in front of the oven, and extend 30" to either side of the oven doorway.

*When non-combustible building materials contact the body of the appliance, the clearances to combustibles are transferred to those non-combustibles.

NOTICE: For stucco-ready appliances (model numbers ending in "-S"), the same clearances as described above apply. Non-combustible stucco mix must be used and applied to a minimum thickness of 1".

IF THIS OVEN IS NOT PROPERLY INSTALLED A FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THESE INSTALLATION INSTRUCTIONS. A MAJOR CAUSE OF OVEN RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

WARNING: DO NOT PACK REQUIRED AIR SPACES WITH INSULATION OR OTHER MATERIAL.

WARNING: Installation and servicing of this product could expose you to glasswool/ceramic fibers as well as Calcium Silicate dust. ALWAYS WEAR RESPIRATORY AND EYE PROTECTION WHEN INSTALLING OR SERVICING THIS APPLIANCE. Please read this entire manual before you install the oven. Failure to follow instructions may result in property damage, bodily injury or even death. Contact your local building or fire officials about restrictions and installation inspection in your area.

PLEASE READ THIS ENTIRE MANUAL BEFORE YOU INSTALL THE OVEN. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH. CONTACT YOUR LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA.

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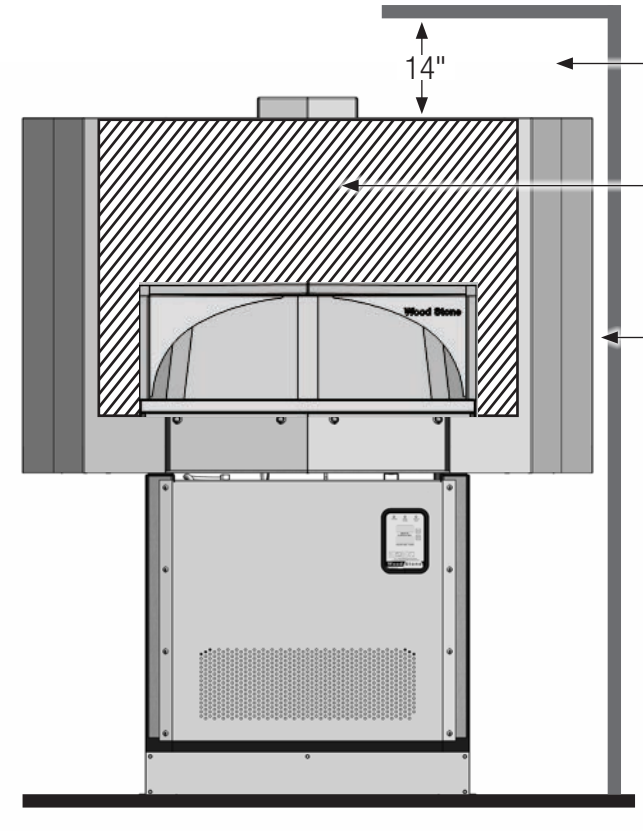
THE FOLLOWING CLEARANCE INFORMATION APPLIES TO ALL WOOD STONE MOUNTAIN SERIES OVENS



14" top clearance to combustible building materials.

Any facade materials 6" to either side of the doorway and above must be **NON-COMBUSTIBLE.**

1" side clearance to combustible building materials.

Note: 0" side and top clearance to non-combustible materials. However, the respective clearances to combustibles are transferred to those non-combustibles.

For use only on noncombustible floors (installér sur un plancher incombustible seulement). Non-combustible floor surface AND provided with a non-combustible floor covering at least 30" to each side of, and 36" in front of the door opening.

Combustible building material

Non-combustible building material

Any facade wall 6" to either side of the oven doorway and above **MUST** be of non-combustible construction with no exceptions.

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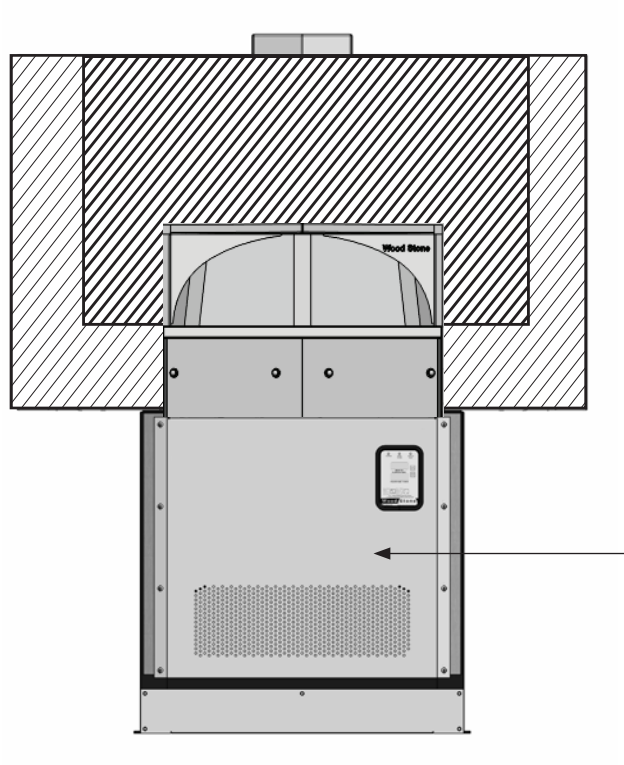
Wood Stone Mountain Series (MS-) ovens carry an ETL Sanitation listing. The oven interior only is ETL listed to NSF/ANSI Standard 4. This means that the surfaces of the oven which are meant to be left exposed after the facade has been put in place have been evaluated from the standpoint of sanitation and food safety and found to comply with NSF/ANSI Standard 4. To operate the oven in accordance with NSF/ANSI Standard 4, only pizza and bread products may be cooked directly on the floor of the oven. Other types of food may be cooked on or in pans, or other suitable containers to prevent spillage onto the oven deck.

Go to **www.woodstone-corp.com** for detailed instructions for constructing a facade around a Wood Stone oven.



If using an exhaust hood over the oven, make sure your facade allows proper access for removal of the hood filters.

A removable Service Panel or storage box allows access for service of gas and electrical components. If this panel is not used, access and air intake of equivalent dimensions MUST be provided at the front of the oven.

Hatched areas shall not be exposed after installation of facade.

Any facade wall 6" to either side of the oven doorway and above **MUST** be of non-combustible construction with no exceptions.

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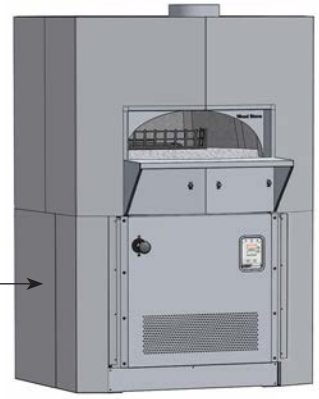
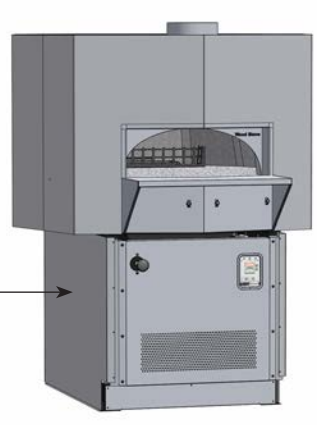
OUTDOOR INSTALLATIONS

The Mountain Series (MS-) model ovens are ETL approved for outdoor installation. When installed outdoors, the open area beneath the oven must be enclosed, with the exception of the perforated area on the front Service Panel (or storage box) for air intake. The oven may be installed in a weatherproof enclosure. If so be sure to maintain all clearances and adhere to the installation requirements included in this manual.

KEEP THE AREA AROUND AND BENEATH THE OVEN CLEAR OF GRASS, LEAVES AND OTHER COMBUSTIBLE MATERIALS.

Wood Stone also offers the following options to enclose the area beneath the oven





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The Wood Stone Gas ovens are equipped with a 3/4" NPT gas connection located at the rear left of the oven. Have a licensed gas installer provide the hook-up and test all fittings and pipe connections for leaks. Use approved gas leak detectors (soap solutions or equivalent) over and around the fittings and pipe connections. **DO NOT USE FLAME TO TEST FOR LEAKS!**

SV-1 is the gas control valve that operates the Underfloor Infrared (IR) burner. The manifold pressure test port is 1/8: NPT pugged tap located on the IR burner manifold.

The burner manifold pressure has been adjusted and tested at the factory. A variety of factors can influence this pressure, so be sure to test the burner manifold pressure and adjust the valve as necessary to achieve the specified pressure.

NOTE: Maximum inlet gas pressure: 1/2 psi (14 inches W.C.)

This oven requires no modifications or adjustments for use at high altitudes.

Factory specified individual burner manifold pressures (W.C.) for W-IR models equipped to burn wood and Natural Gas (NG)

Model	SV-1
WS-MS-4-W-IR-NG	3.5"
WS-MS-5-W-IR-NG	3.5"
WS-MS-6-W-IR-NG	3.5"
WS-MS-7-W-IR-NG	3.5"

Factory specified individual burner manifold pressures (W.C.) for models equipped to burn wood and Propane (LP & HLP)

Model	SV-1
WS-MS-4-W-IR-LP	9"
WS-MS-5-W-IR-LP	9"
WS-MS-6-W-IR-LP	9"
WS-MS-7-W-IR-LP	9.2"

Model	SV-1
WS-MS-4-W-IR-HLP	9"
WS-MS-5-W-IR-HLP	9"
WS-MS-6-W-IR-HLP	9"
WS-MS-7-W-IR-HLP	9.2"

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Hourly Natural Gas (NG) BTU/hr input rates for Wood Stone Mountain Series wood/gas (W-IR) ovens

Model	BTU/hr Input Rate
WS-MS-4-W-IR-NG	52,000
WS-MS-5-W-IR-NG	83,000
WS-MS-6-W-IR-NG	83,000
WS-MS-7-W-IR-NG	97,000

Hourly Propane (LP & HLP) BTU/hr input rates for Wood Stone Mountain Series wood/gas (W-IR) ovens

Model	BTU/hr Input Rate
WS-MS-4-W-IR-LP	53,000
WS-MS-5-W-IR-LP	65,000
WS-MS-6-W-IR-LP	65,000
WS-MS-7-W-IR-LP	85,000

Model	BTU/hr Input Rate
WS-MS-4-W-IR-HLP	52,000
WS-MS-5-W-IR-HLP	83,000
WS-MS-6-W-IR-HLP	83,000
WS-MS-7-W-IR-HLP	97,000

Wood Stone recommends that the appliance's individual shutoff valve (supplied by others) be left readily accessible. Wood Stone also recommends that inspection and maintenance of the burners and gas piping connections of this appliance be performed at regularly scheduled intervals and only by professional gas appliance service agencies.

GAS CODE LIMITATIONS

The installation of this appliance must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 or The Natural Gas installation Code CAN/CGA-B149.1 as applicable, including:

The appliance and its individual shutoff valve (supplied by others) must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.45 kPa).

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve (supplied by others) during any pressure testing of the gas supply piping system at test pressure, equal to or less than 1/2 psi (3.45 kPa).

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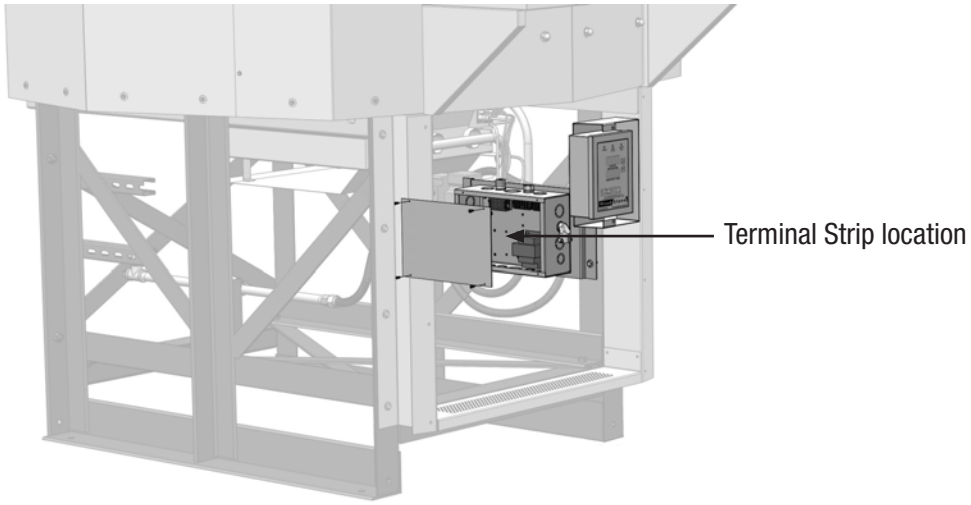
Incoming power should be connected to the terminal strip located in the Transformer Junction Box beneath the oven (see diagram below). The standard oven model comes configured for connection to a 120 VAC circuit. The oven can be ordered configured for connection to a 240 VAC circuit. Always refer to the equipment data plate beneath the oven to verify the proper voltage. The voltage is also specified on the Transformer Box cover. Never connect an oven rated 120 VAC to a 240 VAC circuit or vice versa. It is recommended that the oven be connected to its own individual branch circuit. Have a licensed electrician connect the oven to the appropriate 120 VAC or 240 VAC circuit. Electrical diagrams are located directly to the right, behind the removable service/intake panel of the appliance as well as inside the control box. Electrical diagrams are also located near the end of this manual. See the FRONT PANEL ASSEMBLY section of this manual for the location of the transformer housing.

ELECTRICAL RATINGS

120 VAC, 1.1 A, 50/60 Hz
240 VAC, 1.1 A, 50/60 Hz

ELECTRICAL CODE LIMITATIONS

Electrical Grounding: This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical code, ANSI/NFPA 70 or the Canadian Electrical Code, CSA C22.1 as applicable.



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THIS MODEL MUST BE VENTED AS A SOLID FUEL APPLIANCE

The following are the manufacturer's recommendations for venting the Wood Stone MS (Mountain Series) W-IR ovens. It is never appropriate to use "B vent" in any part of an exhaust system connected to a Wood Stone oven. All duct material must be manufactured to the specifications of a grease duct. This is a wood/gas combination oven and must be vented as a solid fuel piece of equipment. Due to the possibility of sparks entering the system, exhaust systems serving solid fuel equipment must be vented separately from other non-solid fuel equipment. The duct serving this oven should be inspected at least twice a month during the first two months of operation, to establish rate of creosote buildup and necessary cleaning schedule. Typically, we recommend monthly cleaning for all solid fuel ovens. Submit your venting plans to your local authorities before proceeding with your installation, as there may be additional requirements in your area.

There are two venting options:

VENTING OPTION 1

Direct Connection: A listed building heating appliance chimney, also listed as a grease duct as described in NFPA 96, connected directly to the oven flue collar and provided with a power ventilator listed for restaurant appliance exhaust. The power ventilator should be rated for a minimum of 450 °F. Wood Stone does not recommend the use of an in-line fan. A field built grease duct, constructed and installed to the specifications of a grease duct as detailed in NFPA 96 or the International Mechanical Code, may also be used.

A static pressure of -0.14 inches water column is necessary at the oven flue collar to ensure that flue gas temperatures do not exceed 450 °F at the fan inlet. This measurement may be taken by inserting the probe of the magnahelic gauge through the oven doorway, upwards to the oven flue collar. **NOTE:** Double door ovens (models ending in "-DD"), have two flue collars, both must be connected and a static pressure of -0.14 inches must be maintained at each collar. See table below for CFM required to attain the specified static pressure. **NOTE:** Solid fuel burning ovens must be vented separately from non-solid fuel burning equipment.

CFM REQUIREMENTS

Model	CFM required
WS-MS-4-W-IR	425
WS-MS-5-W-IR	500
WS-MS-6-W-IR	500
WS-MS-7-W-IR	550

Install the venting system in accordance with the duct manufacturer's instructions and in accordance with all local codes. All field built components should be built to the applicable codes and standards and are subject to the approval of the authority having jurisdiction.

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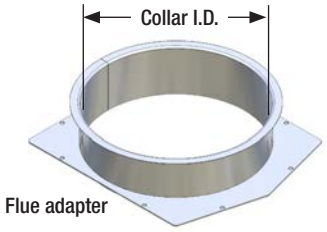
NOTE: If your MS-5, MS-6 or MS-7 oven is ordered from Wood Stone without a hood, it will have a round flue adapter installed to facilitate direct connection to a round duct. If the oven is to be installed under a hood, it MAY be necessary to remove the round adapter to properly position the hood. This is done by removing the screws that attach the adapter to the oven. Please contact Wood Stone if you have any questions.



Model	Oven	Flue Collar I.D. (nominal)
WS-MS-5	Mt. Adams	10 inch
WS-MS-6	Mt. Baker	10 inch
WS-MS-7	Mt. Rainier	10 inch

NOTE: MS-4 ovens come standard with a round 8" O.D. collar and do not require the flue adapter for a direct connection.

VENTING OPTION 2

A Listed Type 1 exhaust hood or one that is constructed and installed in accordance with all relevant local and national codes. Wood Stone offers eyebrow-type hoods designed specifically for Wood Stone ovens. See specification sheet on ventilators for Wood Stone ovens. Note that the notch of the hood is even with the front edge of the oven. The hood should be installed in accordance with the hood manufacturer's instructions, and with the Standard for Ventilation Control and Fire Protection of Commerical Cooking Operations, NFPA 96 and/or the applicable local and national codes. Solid fuel burning ovens must be vented separately from non-solid fuel burning equipment.

It is never appropriate to use "B vent" in any part of an exhaust system connected to a Wood Stone oven. All duct material must be manufactured to the specifications of a grease duct. Due to the possibility of sparks entering the duct, exhaust systems serving solid fuel equipment MUST NOT be combined with exhaust systems serving other (non-solid fuel) equipment. This model is rated as solid fuel equipment and must be vented as such.

VERY IMPORTANT!
WOOD STONE RECOMMENDS THAT YOU CONSULT WITH A QUALIFIED MECHANICAL ENGINEER AND SUBMIT YOUR VENTING PLANS TO LOCAL CODE AUTHORITIES BEFORE PROCEEDING WITH INSTALLATION.

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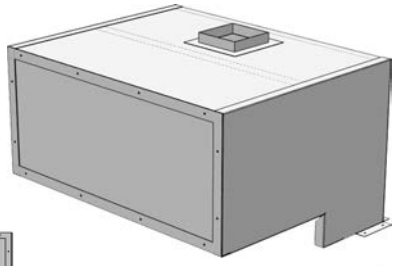
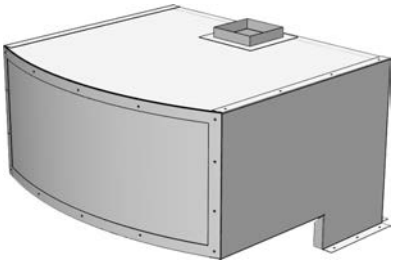
FIRE SUPPRESSION

Check with your local code officials to see if fire suppression is required in your area. If fire suppression is required, you must vent the oven using a Type 1 hood constructed and installed in accordance with NFPA 96. The fusible link in the hood must be rated at 450 °F minimum. Wood Stone offers Listed exhaust hoods for our ovens that are pre-piped for ANSUL R-102 fire suppression. All installations are subject to the approval of the local authority having jurisdiction.

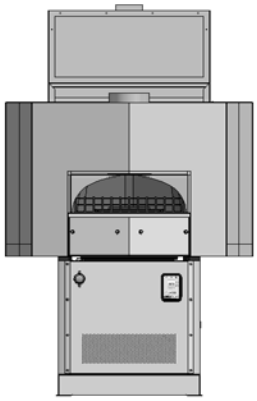
INSTALLATION VIEWS OF A WOOD STONE HOOD

Flat face hood

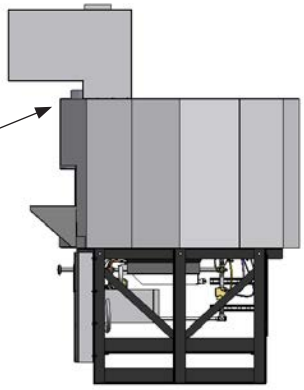


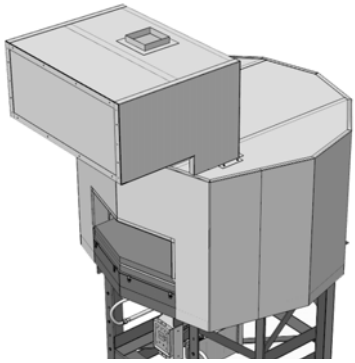


Curved face hood



Allow sufficient opening between any facade and the inside edge of the front of the hood to allow for filter removal and hood cleaning. Any front facade wall should not be built any higher than the top of the oven to allow for access to the filter.





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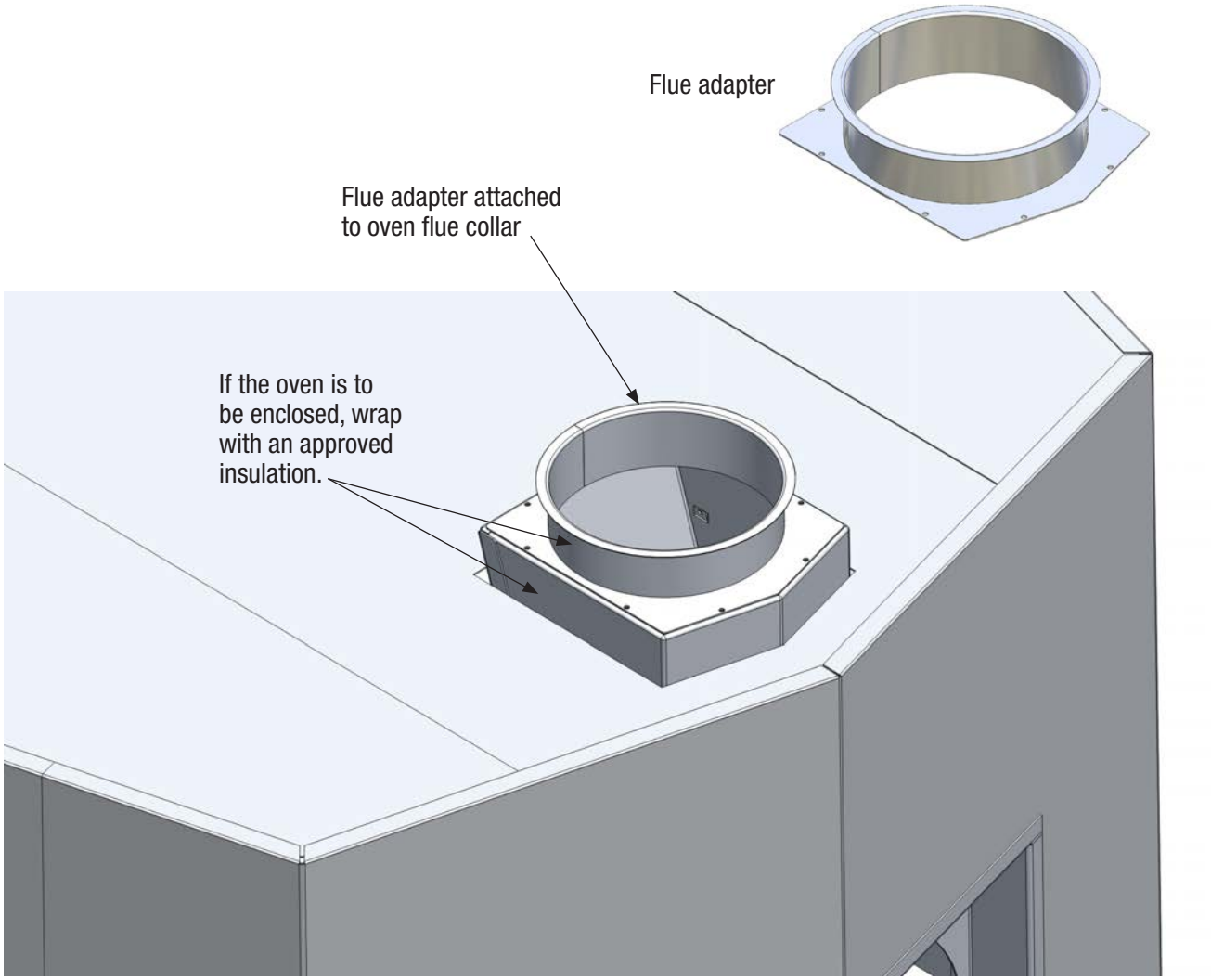
MOUNTAIN SERIES OVENS: FLUE ADAPTER

The flue adapter unit is designed to facilitate connection to a round duct. Use the stainless steel screws and sealant provided to attach the flue adapter to the exhaust outlet on the oven if it is not already installed.

Note: If using a Selkirk or other modular-type duct, attach according to the manufacturer's instructions. Otherwise, the duct must be attached with a full perimeter weld. All duct must be grease-rated duct. If the oven is going to be enclosed, the flue adapter and exhaust outlet must be wrapped with an insulating material approved for use with a grease-duct.



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VENTING DO'S AND DON'TS

When installing a Wood Stone Mountain Series oven there are some basic guidelines to follow regarding oven venting that will help ensure proper operation and performance of the gas burners on the oven. These guidelines will also help prevent damage to the oven's gas and electrical components due to improper venting and installation. Damage caused by improper venting and installation is not covered by the oven warranty. This information applies to all Wood Stone Mountain Series (MS) ovens equipped with one or more gas burners.

Most Wood Stone Mountain Series ovens are built into some sort of wall structure or enclosure. This creates the potential for different venting scenarios that can be detrimental to the operation and performance of the oven burners. Here are some basic rules that to follow that will ensure a properly functioning oven installation. Illustrated examples are included on the following pages.

RULE 1

The **ONLY** pathway for air to enter the space beneath the oven should be at the front of the oven at the perforated opening in the oven Service Panel provided with the oven, or on ovens equipped with an optional Storage Box, through the perforations provided on the oven Storage Box. This will eliminate the chance of air movement or cross drafts beneath the oven that can disrupt the oven burners.

RULE 2

DO NOT block the flow of air through the front Service Panel. It is required to provide necessary combustion air to the oven burners. Airflow and service access **MUST** be provided from the front of the oven only at this Service Panel. **DO NOT** relocate the oven air intake (see Rule 1).

RULE 3

To ensure proper venting of the oven, you must use an appropriate exhaust fan as described in this manual. There must also be an adequate source of make-up air provided to your kitchen space—the room that the oven opens into. The make-up air supply should not point directly at the oven. Other than the oven Service Panel, do not provide make-up air or other ventilation into an enclosure that surrounds the oven (see Rule 1). Without proper make-up air the oven, (or any gas equipment), will not vent and operate correctly.

Please review the illustrations on the following pages.

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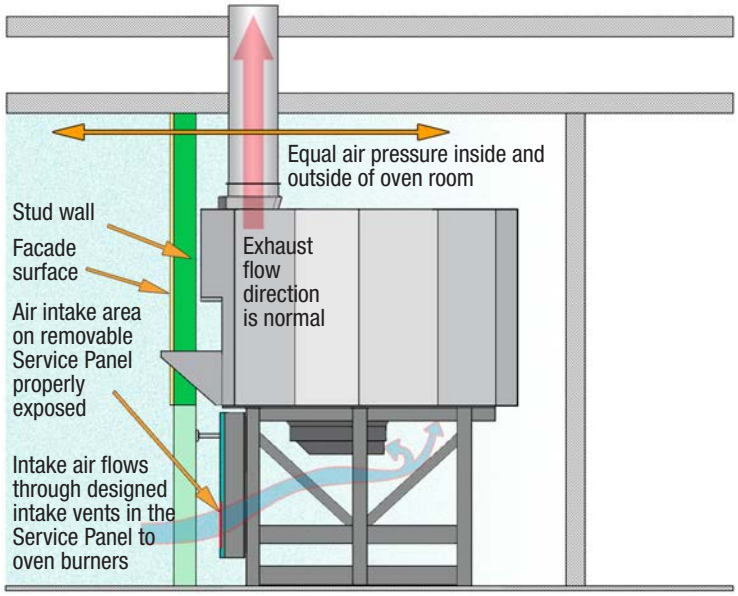
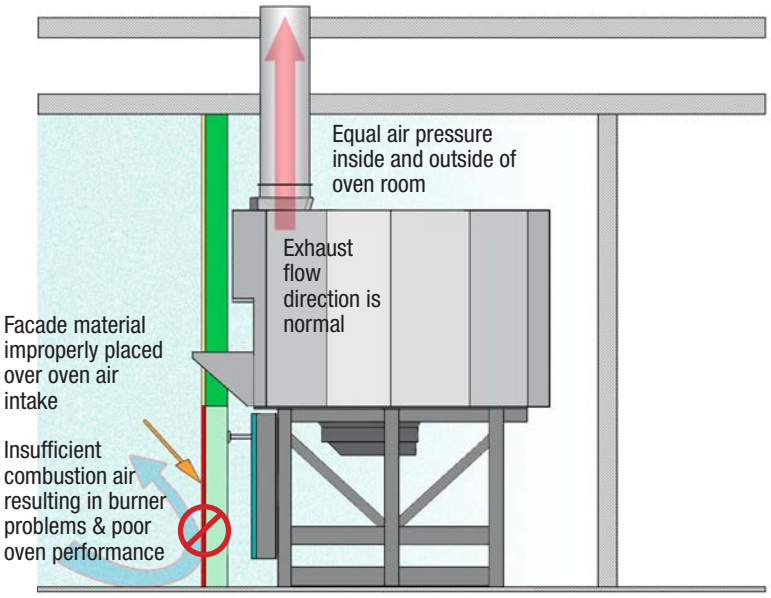
DIRECT CONNECT VENTING EXAMPLES


Equal air pressure inside and outside of oven room
Stud wall
Facade surface
Exhaust flow direction is normal
Air intake area on removable Service Panel properly exposed
Intake air flows through designed intake vents in the Service Panel to oven burners

1 Acceptable venting

Example 1 shows a proper installation. The enclosure around the oven is completely sealed so that the only air entering the space beneath the oven comes through the oven Service Panel.


Equal air pressure inside and outside of oven room
Exhaust flow direction is normal
Facade material improperly placed over oven air intake
Insufficient combustion air resulting in burner problems & poor oven performance

2. Unacceptable venting

Example 2 is not acceptable because the combustion air intake is blocked, preventing combustion air from reaching the oven burners. The burners will not function properly, and will lead to damage of oven components.

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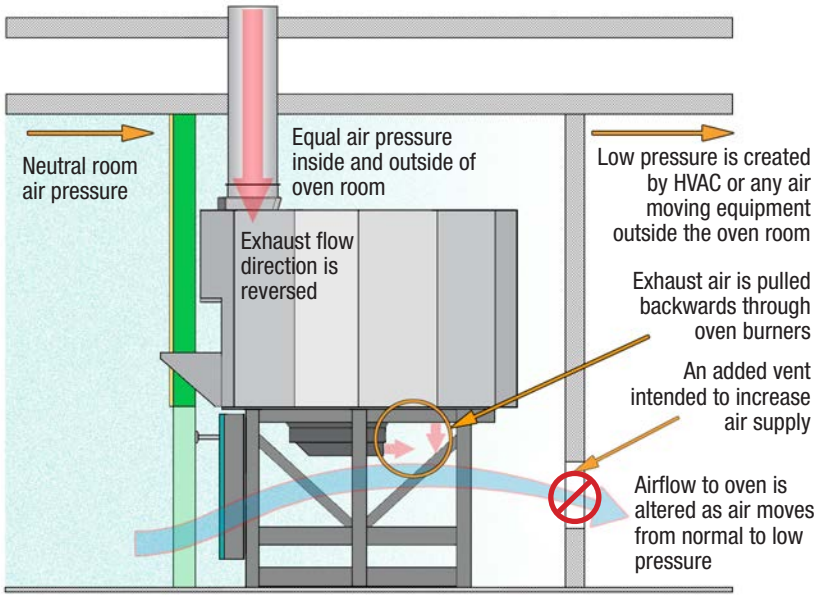
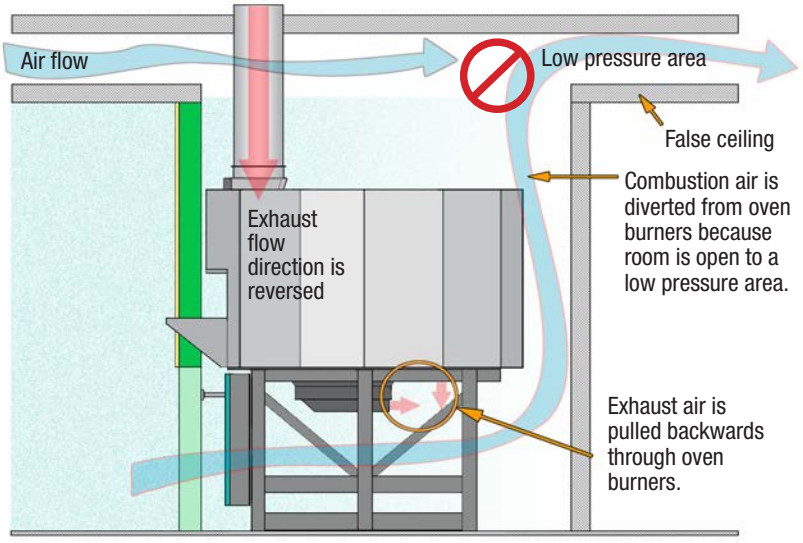
DIRECT CONNECT VENTING EXAMPLES


Neutral room air pressure
Equal air pressure inside and outside of oven room
Exhaust flow direction is reversed
Low pressure is created by HVAC or any air moving equipment outside the oven room
Exhaust air is pulled backwards through oven burners
An added vent intended to increase air supply
Airflow to oven is altered as air moves from normal to low pressure

3. Unacceptable venting

Example 3 shows an incorrect installation where an additional vent was added to the wall behind the oven, creating an air pressure difference causing air movement beneath the oven and disrupting the operation of the oven burners. This air movement can be so severe as to cause a downdraft, pulling the exhaust down the oven flue and backwards through the burners, leading to heat damage of oven components.


Air flow
Low pressure area
False ceiling
Combustion air is diverted from oven burners because room is open to a low pressure area.
Exhaust flow direction is reversed
Exhaust air is pulled backwards through oven burners.

4. Unacceptable venting

Example 4 shows an incorrect installation where the enclosure surrounding the oven is open to the attic space above the ceiling. Air can move rapidly through the space enclosing the oven to the lower pressure area within the attic space. This can cause a downdraft situation at the oven, pulling air and heat backwards through the oven burners, leading to damage of oven components.

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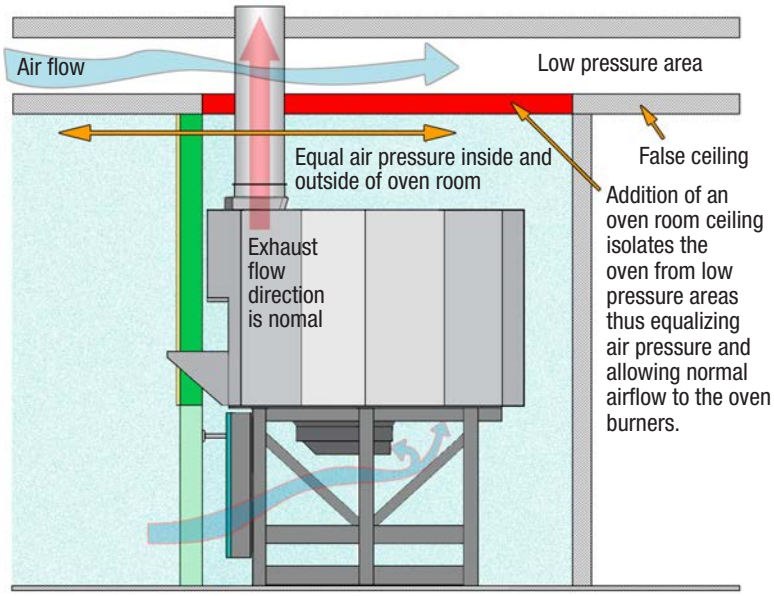
DIRECT CONNECT VENTING EXAMPLES


Air flow
Low pressure area
Equal air pressure inside and outside of oven room
False ceiling
Addition of an oven room ceiling isolates the oven from low pressure areas thus equalizing air pressure and allowing normal airflow to the oven burners.
Exhaust flow direction is nomal

5 Acceptable venting

Example 5 shows a correct installation where a ceiling has been added to the enclosure surrounding the oven to correct an improper installation.

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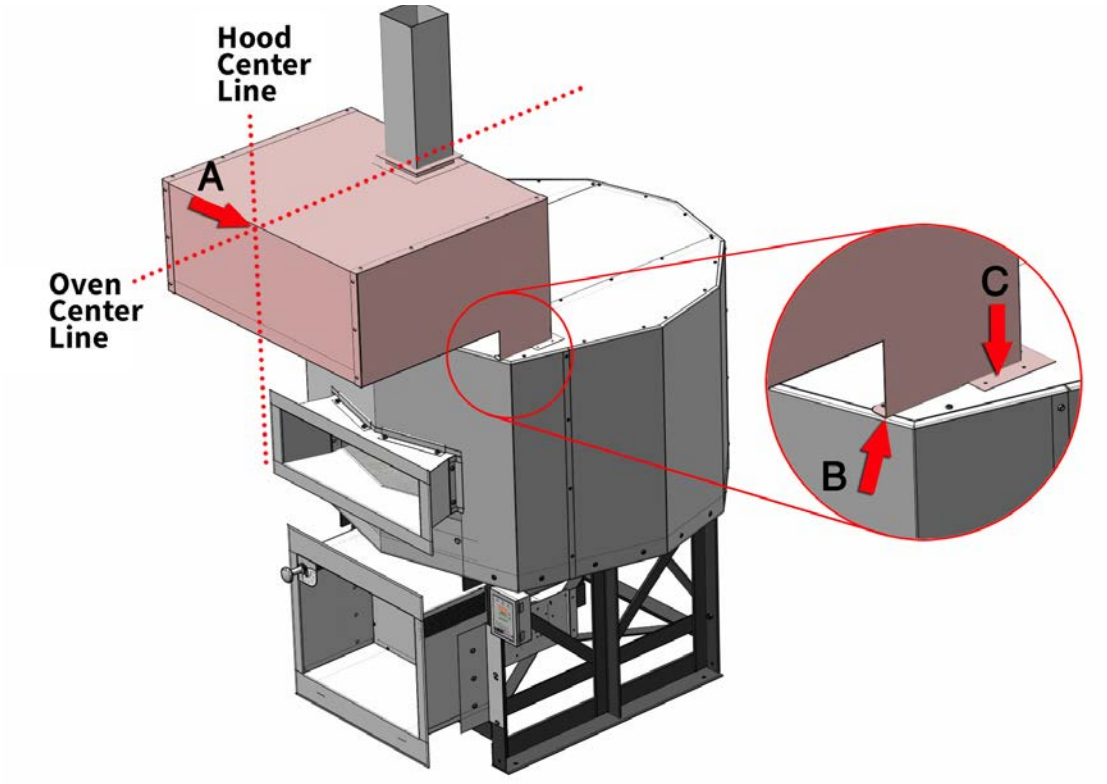
HOOD INSTALLATIONS

In addition to the information given for installations using the direct connect venting method, the following information applies to installations where the oven is being vented using a Listed Type 1 hood. Also refer to the OVEN VENTING section earlier in this manual.

PROPER MOUNTING POSITION FOR THE WOOD STONE HOOD

1. Center the hood from side to side on the oven (A). Note that in an MS-5, 6 or 7 model, the oven may have the round flue adapter attached. The adapter can prevent the proper positioning of the hood. The flue adapter is attached with screws. Simply remove the screws to remove the adapter if it is in the way.
2. Pull the hood forward so that the notch (B), as viewed from the side of the hood, lines up with the front edge of the top of the oven.
3. Secure the hood to the top of the oven using #10 self-tapping screws. The flanges on the hood are pre-drilled (C). Screw directly into the top of the oven to secure the hood.
4. Attach grease-rated duct to the outlet on the hood. The hood captures over the oven flue collar and oven doorway. No connection is made to the oven flue collar.



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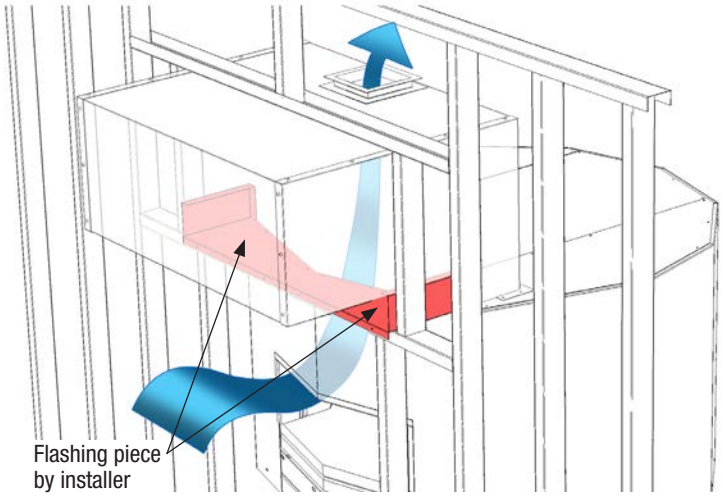
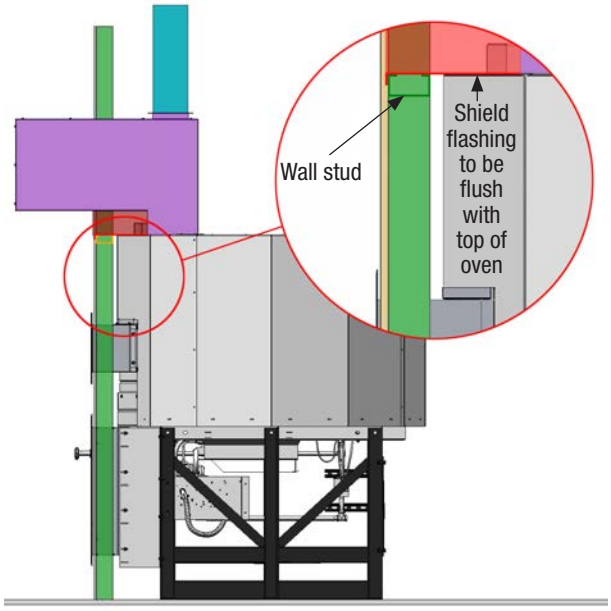
HOOD INSTALLATION WITH DECORATIVE FACADE WALL/OVEN ENCLOSURE

For installations where a hood is being used with a decorative facade wall or oven enclosure, it will be necessary to both seal the gap between the facade wall and the top of the oven, and the gaps at the sides of the hood between the facade wall and the front of the oven. This will prevent air from being pulled up the sides of the oven from below by the hood. It will also prevent debris, etc. from falling into the facade wall.



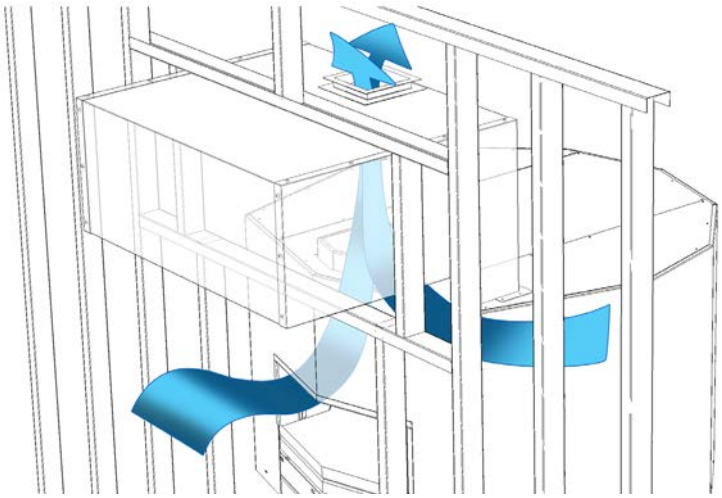
Acceptable venting



Acceptable venting

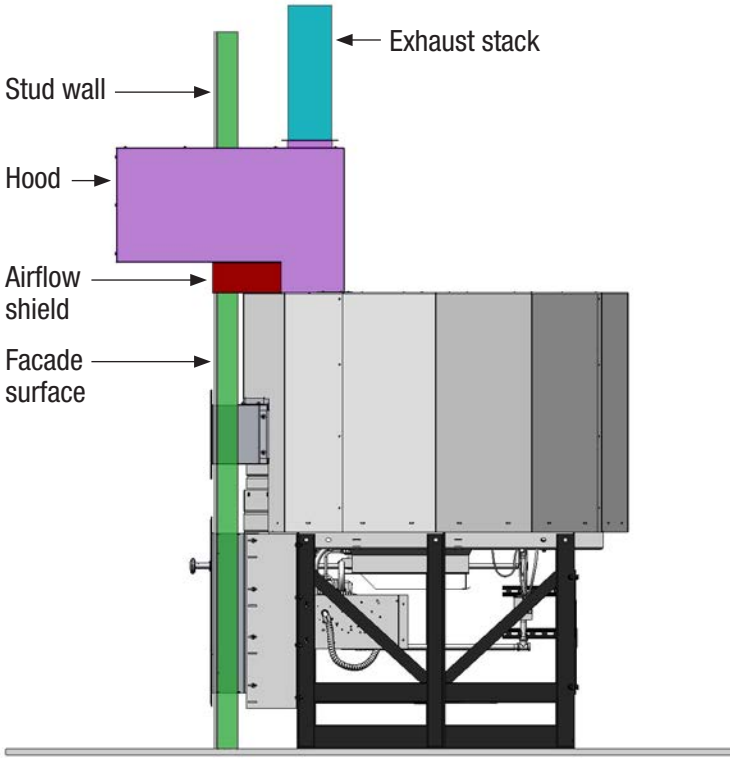
Additional flashing detail

Note that the hood extends out beyond the face of the oven. DO NOT extend the oven facade wall into the oven hood. The wall beneath the hood must stop at the top of the oven. To allow for proper function of the hood, filter removal and hood maintenance, you must provide a minimum of 8 inches of clearance between the front face of the facade wall and the front of the hood.



Unacceptable venting

Incorrect installation. No flashing has been installed so air being pulled up the sides of the oven from beneath.



Acceptable venting

Side view of properly installed hood

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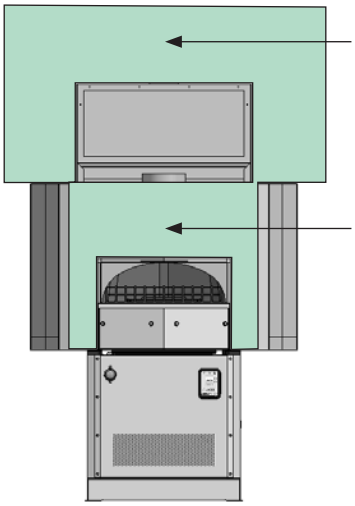
CLEARANCES

The Type 1 hood requires an 18-inch clearance to combustible construction. Clearances to limited combustibles may be reduced per NFPA 96 and/or your local codes. Approved clearance reduction methods may also be used, per NFPA 96 and/or your local codes. (These reductions are applicable to the hood and/or duct only, NOT to the oven.) Consult with your local inspector regarding approved methods.

Any facade wall 6" to either side of the oven doorway and above **MUST** be of non-combustible construction with no exceptions.

Shaded areas must be of non-combustible construction.



Maintain 18" clearance to combustible construction from hood. Clearance reduction methods described in NFPA 96 may be used subject to the approval of the authority having jurisdiction.

Any facade wall six inches from either side of the doorway and above (as shown in green) must be of non-combustible construction.

All installations subject to the approval of the local authority having jurisdiction. Wood Stone recommends you submit your venting plans in advance to your local authority for approval.

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1. Mount the oven mantle (if provided) using the hardware provided. Please refer to the MANTLE MOUNTING section.
2. Mount the stainless steel toe kick to the front of the oven stand, angle side down using the large self tapping screws. The holes are pre-drilled in the stand. If your oven is equipped with a Service Panel extension or storage box, a toe kick is not necessary. Refer to assembly diagrams in the pages that immediately follow.
3. Mount the service/intake panel to the brackets on the front of the stand, directly below the doorway, using the screws provided. See the FRONT PANEL ASSEMBLY section. If your oven was shipped with the optional facade extensions, see EXTENSION PANEL ASSEMBLY section.

   NOTE: This panel is the only access for servicing the gas and electrical components of the oven so it must be left accessible and removable. Do not obstruct the flow of combustion and ventilation air through the perforation provided on the front panel.
4. The following applies to stucco finish ovens only (models ending with "-S"): Once the oven has been set in place, cover wire mesh and metal lathing with no less than 1 inch of stucco (see STUCCO APPLICATION section for diagram and stucco formula).

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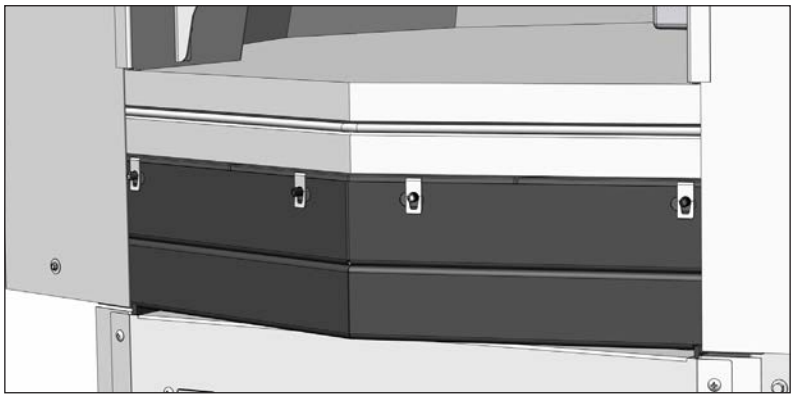
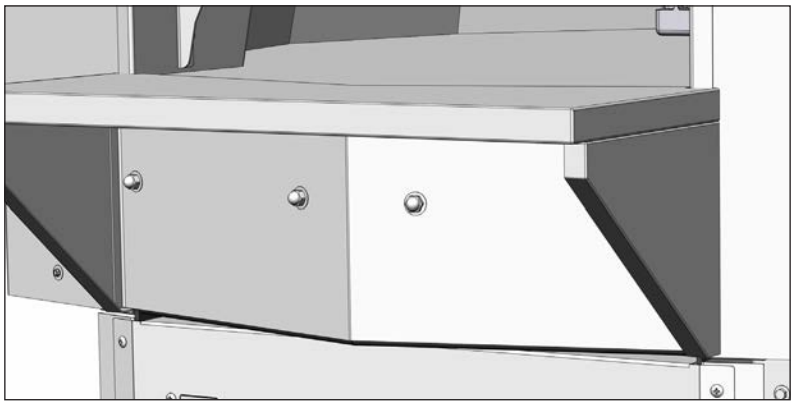
The initial steps are the same for mounting either a stainless mantle or a bracket for a granite mantle.





1. Begin by installing the threaded studs into the clip nuts below the oven doorway (3 or 4 turns is sufficient).
2. Position the mantle (or bracket) on the oven, making sure the rear flange rests on the floor of the oven (you may need an extra pair of hands).
3. Place one stainless steel washer and a cap nut onto each stud. Tighten the cap nuts so the mantle is securely held in place.
4. Using the high temperature silicone (provided), fill any gaps between the oven hearth and the mantle flange. Gaps between the mantle flange and the stainless steel doorway frame may also need to be filled with a small amount of the silicone sealant. Clean up any sealant before it dries.

INSTALLATION OF GRANITE

After completing the steps outlined above, apply a generous amount of silicone adhesive (provided) to the top of the steel mantle bracket.

Put the stone in place and apply light pressure to seat it properly. Make sure that the angle in the granite lines up with the angle in the bracket. Allow the sealant to set for several hours before filling any gap between the stone slab and the metal bracket with the silicone sealant (provided). Clean up any sealant before it dries.

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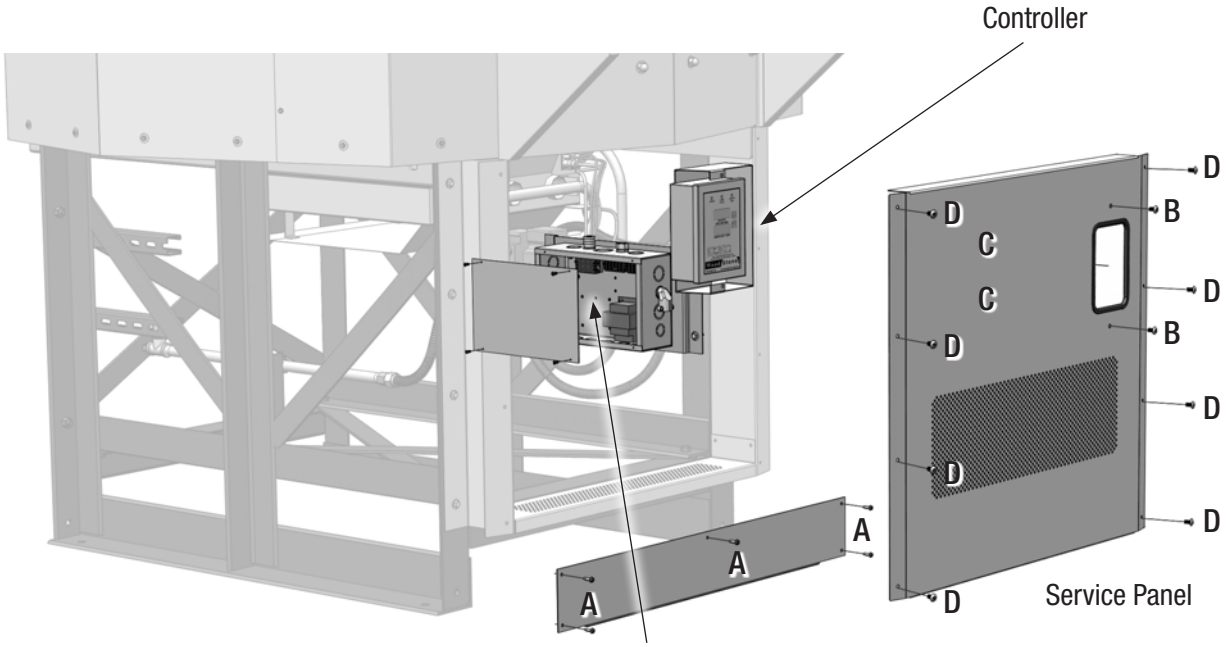
STANDARD FRONT PANEL AND TOE KICK ASSEMBLY INSTRUCTIONS



Transformer Box
Contains terminal strip for incoming power supply.
NOTE: Have licensed electrician make this electrical connection.

A Hex-head self-tapping screw. Used to attach Toe Kick. 5 total.

C Phillips head #10 screw. Used to attach Service Panel to Throttle Knob Bracket. 2 total.

D Phillips head self-tapping screw. Used to secure the sides of the Service Panel. 8 total.

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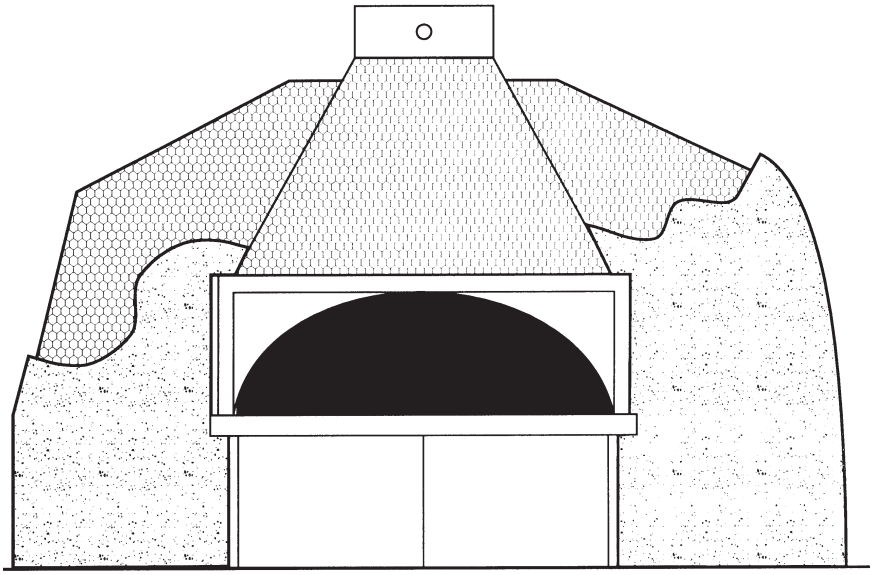
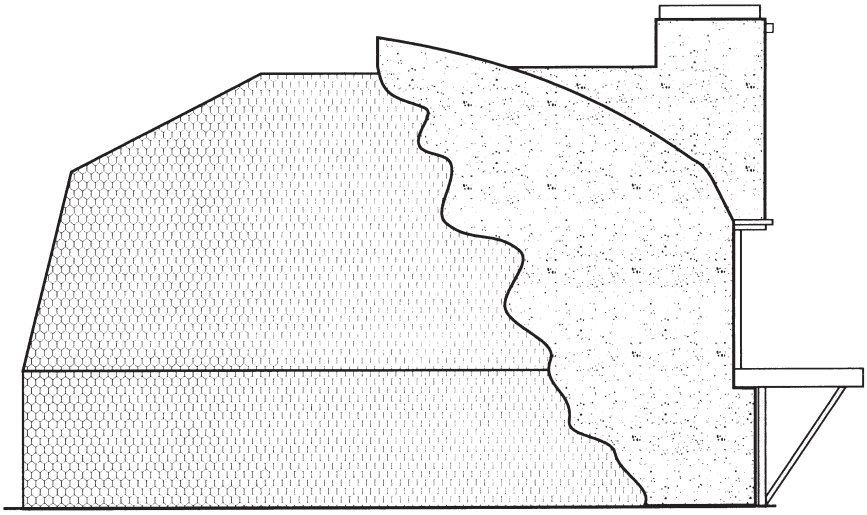


Front View
NOT TO SCALE



Side View
NOT TO SCALE

t

This figure depicts the application of stucco on a Wood Stone oven.

Use no less than one inch of stucco coating to cover all exposed metal lathing on the oven.

Maintain a minimum of 14" clearance from top and 1" from side of the appliance to all combustible surfaces.

TRADITIONAL STUCCO MIX

1 part masonry cement
1 part regular cement
5 parts sand

Stucco premix is available at your local lumber yard or building supply store.

Follow stucco manufacturer's instructions for correct mixing information.

MINIMUM STUCCO APPLICATION IS 1"

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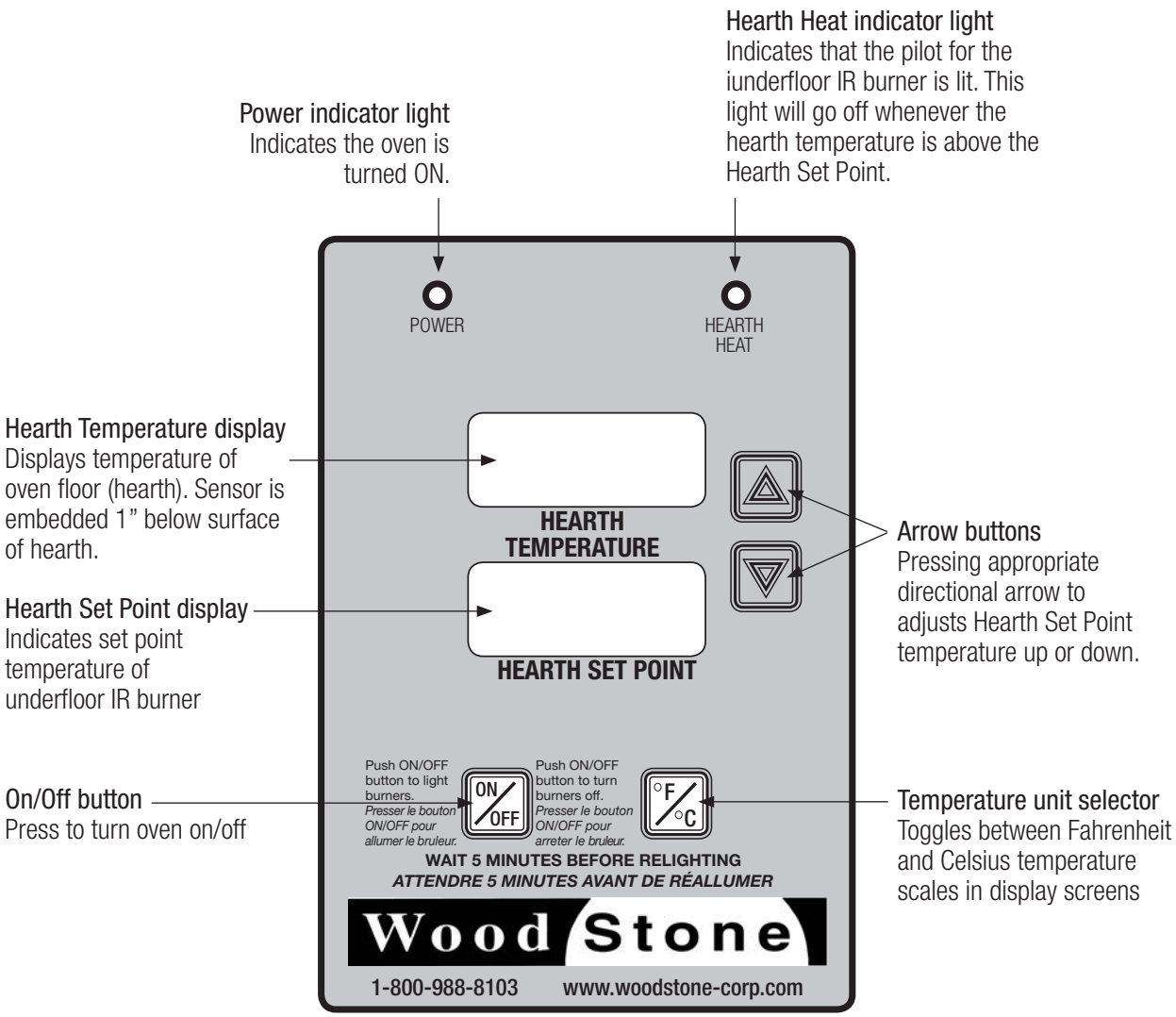
W-IR AND WG OVEN CONTROLLER FUNCTIONS


Power indicator light
Indicates the oven is turned ON.
Hearth Heat indicator light
Indicates that the pilot for the iunderfloor IR burner is lit. This light will go off whenever the hearth temperature is above the Hearth Set Point.
POWER
HEARTH HEAT
Hearth Temperature display
Displays temperature of oven floor (hearth). Sensor is embedded 1" below surface of hearth.
HEARTH TEMPERATURE
Hearth Set Point display
Indicates set point temperature of underfloor IR burner
HEARTH SET POINT
Arrow buttons
Pressing appropriate directional arrow to adjusts Hearth Set Point temperature up or down.
On/Off button
Press to turn oven on/off
Push ON/OFF button to light burners.
Presser le bouton ON/OFF pour allumer le bruleur.
ON/OFF
Push ON/OFF button to turn burners off.
Presser le bouton ON/OFF pour arreter le bruleur.
°F/°C
Temperature unit selector
Toggles between Fahrenheit and Celsius temperature scales in display screens
WAIT 5 MINUTES BEFORE RELIGHTING
ATTENDRE 5 MINUTES AVANT DE RÉALLUMER
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READ BEFORE BUILDING FIRST FIRE

Note: The W-IR model is a wood burning oven with an Underfloor Infrared (IR) burner mounted underneath the floor to assist in speeding heat-up and manage the hearth temperature. The wood fire in this oven is the main heat source.

Your oven was cured at the factory. However in the course of shipment, storage on site, etc. the ceramic materials will have absorbed moisture. It is critical that the procedure below be followed to ensure that this moisture is driven from the ceramic in a controlled fashion. This will minimize cracking and prevent damage to the oven that could otherwise occur by bringing the oven to temperature rapidly the first time it is used. This initial procedure need only be followed the first time the oven is fired and/or if the oven has not been used for an extended period of time.

BEFORE BUILDING THE FIRE

Set the thermostatic hearth temperature to 100 °F (factory settings). Note that the control panel will display "LO" until the oven reaches 100 °F. To adjust the oven's thermostatic hearth temperature setting, simply press the arrow button corresponding to the direction in which you would like the setting to go. If the thermostatic set point is raised above the actual hearth temperature, the underfloor IR burner should activate. **Note:** It is only possible to program the floor's thermostatic Hearth Set Point to temperatures from 100–800 °F. Once the proper temperature for your application have been established, there should be little or no need to change the Hearth Set Point.

DAY ONE

1. Build a small kindling fire of newspaper and 5-7 lbs. of heavy hard wood. We suggest using a "fire starter" (paraffin/sawdust stick) to start the fire. Begin with (3) small pieces of wood (about 1–3" diameter and 14–16" in length). Build the fire directly on the floor of the oven against the side or back of the dome. The fire should be built far enough inside and of a size that doesn't permit the flame to go up the flue. Slowly bring the oven temperature up to 300–400 °F. Maintain this fire for 4–5 hours.
2. Once the oven temperature has reached and maintained a temperature of 300–400 °F for 4–5 hours, increase the oven temperature by increasing the size and amount of wood being used. Based on what is already burning, gradually increase the amount of wood per hour. This will bring the oven temperature up to 500–550 °F.

NOTE: THE MORE WOOD ADDED TO THE FIRE, THE HOTTER THE OVEN WILL GET. It is recommended that on the first day of heat-up, the oven does not exceed 550 °F within the first 8 hours. If your goal is to cook at higher temperatures, the oven should only be brought up to 550 °F on day one. Once the oven has reached 550 °F, more wood may be added to the fire as necessary to bring the oven to the desired operating temperature. The amount of wood required to bring the oven to the specified temperatures may vary depending on the type and quality of the wood. **Never use any type of flammable liquid or fuel to start a fire in a Wood Stone oven. Doing so could cause a dangerous situation and/or damage to the oven ceramic.**

AFTER THE FIRST DAY HEAT-UP: Raise the infrared set point to desired hearth temperature. If the goal is to cook between 500–530 °F, the set point should be 500 °F. Remember, the wood fire is the main heat source.

DURING THE FIRST FEW DAYS OF OPERATION, SMALL AMOUNTS OF WATER MAY APPEAR DRIPPING FROM THE OVEN. THIS IS NORMAL AND WILL STOP WITHIN A FEW DAYS.

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IMPORTANT NOTES

- One pound of properly cured, heavy, hard wood produces the potential of 6,500 BTU/hr.
- The temperature sensor (thermocouple) is located one inch under the surface, approximately 1 ft. back from the center of the oven. The thermocouple will display a much higher temperature than the surrounding deck temperature if the fire is placed on top of it.
- If at anytime the oven is allowed to cool to room temperature for an extended period of time, especially in outdoor installations, this heat up procedure will need to be repeated to avoid thermal shocking of the oven ceramic which can cause excessive cracking.
- Small "crazing" cracks will occur with normal heating and cooling. They will not effect the performance or durability of the oven. If cracks of 1/8" or more develop, contact Wood Stone for evaluation.

THE FIRE

Use only seasoned hardwoods with a moisture content of 15–20%. Use of soft woods, such as pine, cedar, hemlock etc., and wet or "green" wood, will cause a build-up of residue throughout the exhaust system. (See the FUELWOOD FACTS section of this manual, or consult Wood Stone for information on what types of wood can be used for oven fuel.)

The fire should be ignited a couple of hours before the oven needs to be at cooking temperature, and can be located practically anywhere in the oven, far enough inside and of a size that doesn't permit the flame to go up the flue. Once the oven is being used daily, the fire can be ignited using still glowing coals from the previous day's fire. The oven is heated more evenly and effectively by the fire positioned on the side rather than in the rear of the oven. Adding about 5–7 lbs. of wood per hour should bring the oven temperature up about 100 °F per hour (this will vary slightly depending on the type and moisture content of the wood and the size of the oven). The floor temperature is indicated by the hearth temperature on the Controller and should not exceed 850 °F. Once the desired temperature is reached, maintain it by adding wood as needed. Do not toss or throw wood against back or side walls of oven—this will damage the oven and void the warranty. At the end of the work day, turn off the oven and put removable stainless steel Heat Retention Night Doors into door opening to hold heat in the oven overnight.

HOW TO READ HEARTH TEMPERATURE

The floor temperature is continuously displayed by the Controller in the window labelled "Hearth Temperature". This reading is being taken by a thermocouple about an inch below the floor surface, so the actual surface temperature may be somewhat different.

MANAGING THE FIRE / TEMPERATURE

These suggestions will normally produce an oven floor temperature of 500–600 °F. If you need to achieve higher temperatures, use a little more wood. For lower temperatures use a little less wood.

MS-4: Maintain 1 log with 6–10" of open flame working on the coal bed.

MS-5 / MS-6: Maintain 1–1½ logs with 8–12" of open flame working on the coal bed.

MS-7: Maintain 1½–2 logs with 8–14" of open flame working on the coal bed.

DO NOT OVER-FIRE THIS OVEN. IF FLAMES ARE SPILLING OUT OF THE DOOR OPENING, OR IF OVEN FLOOR TEMPERATURE EXCEEDS 850°F, THEN YOU ARE OVER-FIRING THE OVEN.

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ASH DISPOSAL

At the start of the following work day, pull the spent fuel (fly ash) off of the coal bed using your brass bristle brush. Remove with ash shovel and place ashes into an ash dolly (metal container with a tight fitting lid). The closed container of ashes should be placed on a non-combustible floor or on the ground, a safe distance from all combustible materials pending final disposal. They should be retained in the closed container until all cinders have thoroughly cooled. Check with your dealer about Wood Stone's Ash Dolly. Specification sheet is available under Tools and Accessories on **www.woodstone-corp.com**.

CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or freshen a fire in this oven. Keep all such liquids away from the oven while it is in use.

DO NOT USE PRESSED WOOD PRODUCTS IN WOOD STONE FOOD SERVICE EQUIPMENT, AS THEY MAY DAMAGE THE CERAMICS.

Note: Small "crazing" cracks will occur with normal heating and cooling. They will not effect the performance or durability of the oven. If cracks of 1/8" or more develop, contact Wood Stone for evaluation.

TURNING OFF THE BURNER

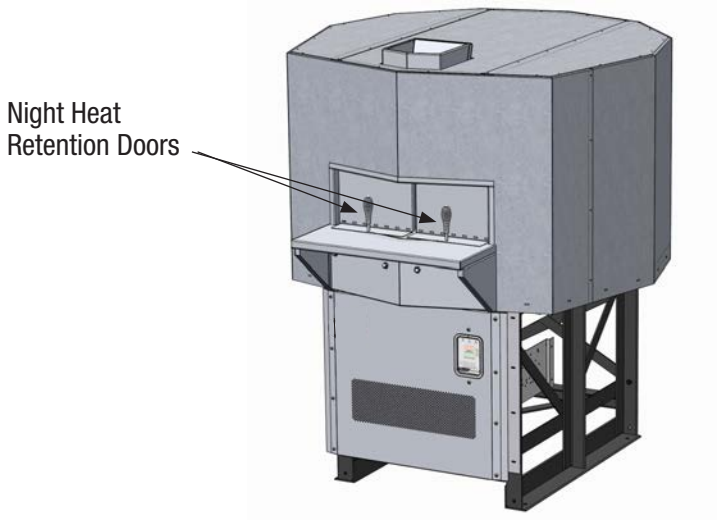
Push the ON/OFF button on the Controller to turn the burner off. The burner will go out and the digital readout on the Controller will go blank.

ALWAYS WAIT 5 MINUTES BEFORE RELIGHTING THE OVEN

For additional operational and cooking information please visit w**ww.woodstone-corp. com** or call Wood Stone.

NIGHT HEAT RETENTION DOORS

These door(s) are used for nighttime heat retention. **Do not operate the oven with doors in place.**



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DAILY MAINTENANCE

OVEN INTERIOR

Clean as needed—multiple times per hour depending on production. Wood Stone recommends the use of long-handled brushes for sweeping up surface debris that will accumulate on the floor of the oven during use. Use a natural fiber brush brushing towards the doorway where it can be easily removed with a dough cutter or spatula. For deeper cleaning, use a brass bristled brush. The oven floor can be then cleaned with a damp (not wet) rag wrapped around the brush head.

Wood Stone offers an assortment of oven brushes available through your dealer. Specification sheets may be viewed on the Wood Stone website under Tools & Accessories.

DO NOT POUR OR SPRAY LIQUIDS ONTO THE OVEN DECK OR INTO THE OVEN INTERIOR AS THIS CAN DAMAGE THE CERAMIC AND WILL VOID THE WARRANTY.

OVEN EXTERIOR

All painted and stainless steel surfaces should be cleaned as necessary using an approved mild detergent, hot water and a soft cloth or sponge. Stubborn residues may be removed using a non-metallic scouring pad. When scouring stainless steel surfaces, scrub with the grain of the metal to prevent scratching.

IMPORTANT: DO NOT USE EXCESSIVE AMOUNTS OF LIQUID WHEN WIPING ON OR AROUND THE CONTROL BOX.

ESTABLISHING A THERMAL CLEANING SCHEDULE

Wood Stone ovens are typically operated at temperatures which preclude the need for cleaning of the interior walls and ceiling (the dome) of the oven. If however, you routinely operate the oven at floor temperatures lower than 450°F, you may notice a buildup on the interior walls and/or ceiling of the oven. If this is the case, use the following procedure to periodically clean the oven. The frequency of thermal cleaning will be determined by the amount of buildup experienced. The amount and rate of buildup will largely be determined by the type of wood burned to fuel the oven, and by how long the oven is operated at temperatures low enough to allow buildup to occur.

THERMAL CLEANING

Wood/Gas Combination Oven: If a Wood Stone oven is operated at low temperatures (below 450 °F), it is possible that grease from food could condense on the walls and ceiling of the oven. Adjust the Hearth Set Point to 600 °F. Starting from an existing fire, it is important to increase the intensity of the fire as the underfloor IR burner cannot sufficiently raise the oven temperature. Increase the intensity of the fire (by adding wood) so that the floor temperature rises above 600 °F. Maintain this temperature for approximately 1 hour or until all visible signs of soiling are gone from the walls and ceiling of the oven. It should not be necessary to physically remove any material from the walls and ceiling with a brush or otherwise. Once the oven dome appears clean, lower the Hearth Set Point and allow the oven to return to the normal operating temperature and continue normal operation.

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IMPORTANT SAFETY CONSIDERATIONS

Solid fuel exhaust contains creosote and other substances that accumulate in ducting, creating a risk of fire. The rate of accumulation will vary with respect to flue gas temperature, wood type and moisture content. Frequent, regularly scheduled, thorough flue cleaning is the best way to minimize the risk of flue fires. As with all commercial cooking equipment exhaust systems, a regular inspection and cleaning schedule is needed to prevent the possibility of a hood or duct fire. The frequency of inspection and cleaning will depend on hours of use and type and quality of wood used as fuel (see below). Only use hardwood species dried to a moisture content of 20% or less. See the FUELWOOD FACTS section at the end of this manual.

CREOSOTE - AND THE NEED FOR ITS REMOVAL

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool oven flue of a slow-burning fire. As a result, creosote residue accumulates in the duct. When ignited, this creosote makes an extremely hot fire. The duct serving this oven should be inspected at least twice a month during the first two months of operation, to establish rate of creosote buildup and necessary cleaning schedule. If creosote or soot has accumulated, it should be removed to reduce the risk of a flue fire. The interior floor and dome of the oven do not require creosote or soot removal. The oven flue and exhaust system will require inspection and cleaning.

The oven flue and exhaust system will require inspection and cleaning. The exhaust system should be inspected and cleaned per the manufacturer's and or local code official's recommendations. Typically, ventilation systems serving solid fuel cooking should be inspected and cleaned at least monthly. Wood Stone recommends cleaning and inspection at least monthly on any ventilation system serving solid fuel equipment.

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PROBLEM	CAUSE/SOLUTION
Controller will not turn on	1. Incoming power to oven turned off. Check circuit breaker for circuit supplying the oven. Check that any wall switches external to the oven that control oven power are turned on. Check that any interlocks external to the oven are turned on. 2. If Controller still does not turn on, please contact Wood Stone for assistance.
Underfloor burner is not running. "Hearth Heat" light is off.	Hearth temperature is above the Hearth Set Point.
Hearth Temperature is above the Hearth Set Point.	This is normal.The wood fire can drive the hearth temperature over the Hearth Set Point. The Hearth Set Point only controls the underfloor (hearth) IR burner.
"Chec" display on Controller	Underfloor burner did not fire when the floor temperature dropped below the Hearth Set Point. Contact Wood Stone for assistance.

Please contact Wood Stone at 1-800-988-8103 should service be necessary, or if you have any questions about your oven. Our service hours are 8am to 4:30pm Pacific Time. Follow the recorded instructions for Emergency Service if you require assistance during non-business hours. A Wood Stone technician will promptly respond to your call.

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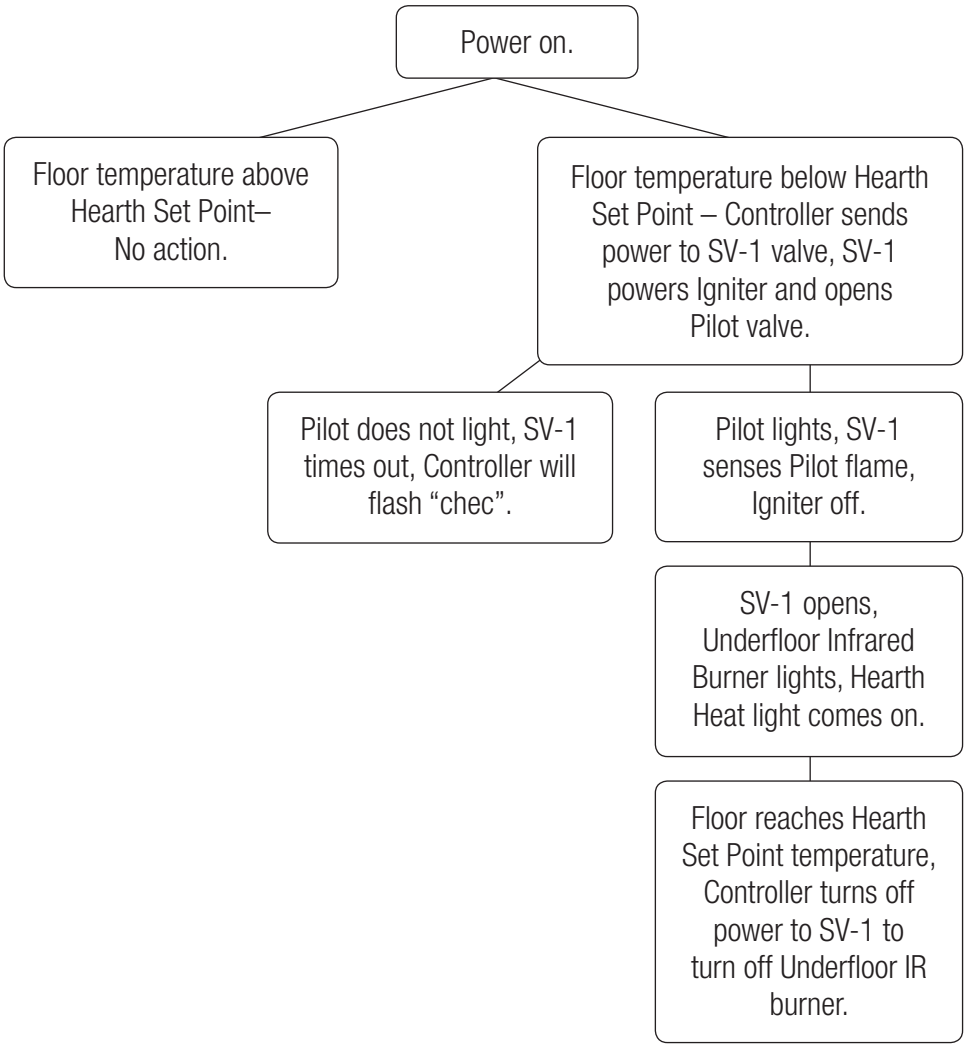
BURNER OPERATION SEQUENCE
W-IR OVEN - TYPE 2 CONTROLLER


Power on.
Floor temperature above Hearth Set Point– No action.
Floor temperature below Hearth Set Point – Controller sends power to SV-1 valve, SV-1 powers Igniter and opens Pilot valve.
Pilot does not light, SV-1 times out, Controller will flash “chec”.
Pilot lights, SV-1 senses Pilot flame, Igniter off.
SV-1 opens, Underfloor Infrared Burner lights, Hearth Heat light comes on.
Floor reaches Hearth Set Point temperature, Controller turns off power to SV-1 to turn off Underfloor IR burner.

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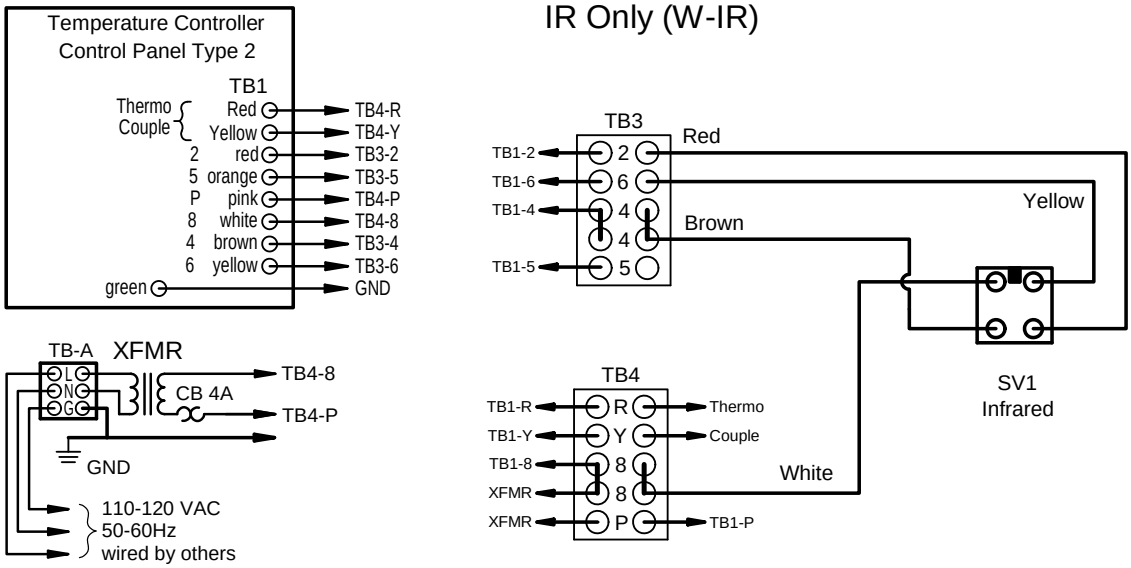
120 VAC MODELS



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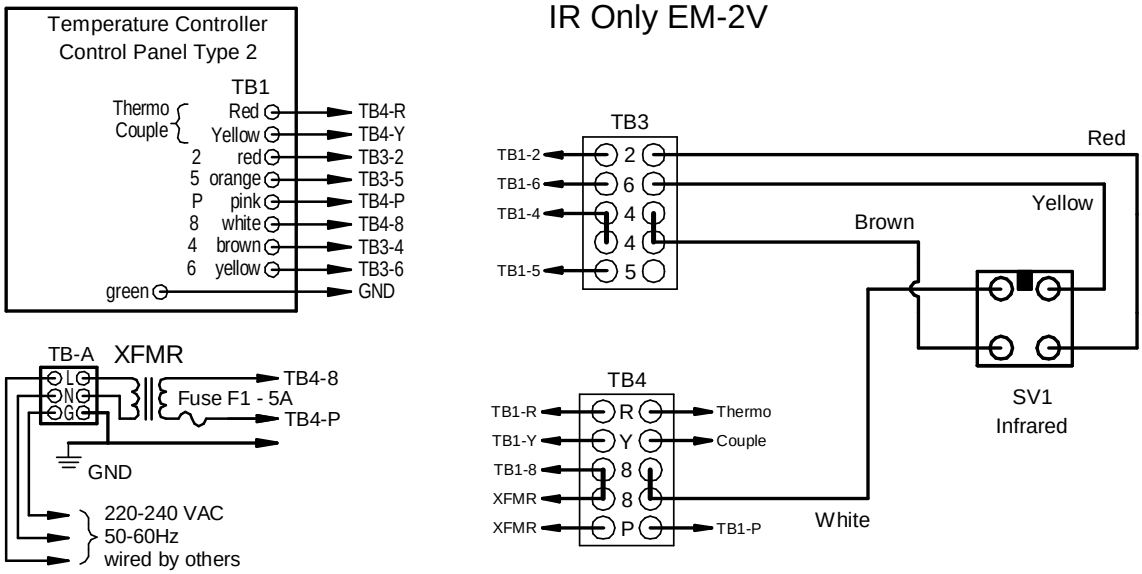
DIAG #: WD061 Rev. 0
DATE: 3/28/2014

240 VAC MODELS



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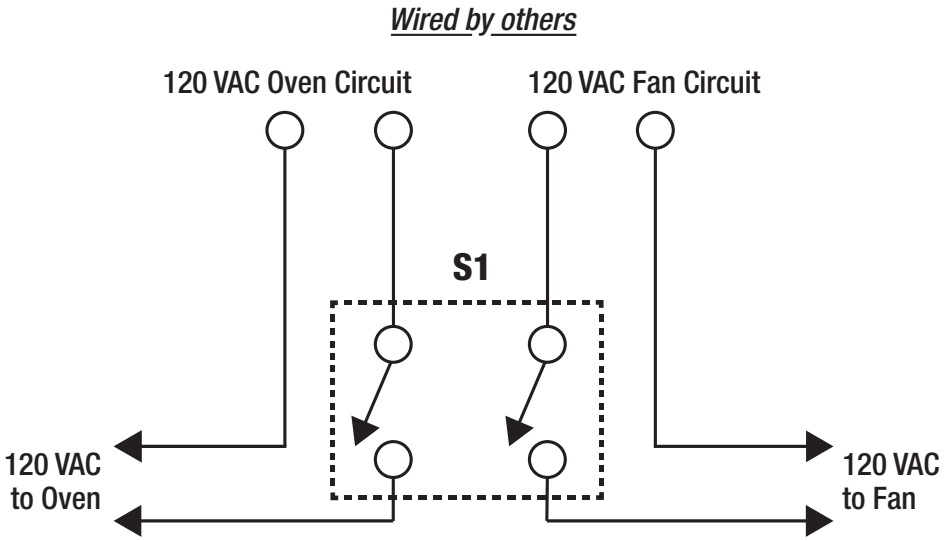
DIAG #: WD062 Rev. 0
DATE: 7/17/2014

INTERLOCK OF OVEN CONTROL TO AN EXHAUST FAN

This connection is intended to interrupt power to the oven until the fan is turned on.



S1 is a Double Pole, Single Throw (DPST)
switch provided by others.

S1 is a double pole, single throw switch (provided by others) that interrupts in-coming power to both the oven and the fan. The intent is to prevent the operation of the oven's gas burner in the event the fan is shut off.

Any interruption of the power to the oven will cause the oven (including all burners and pilots) to shut off, and it will be necessary to restart the oven by pressing the start switch once power is restored.

For additional interlock options, see the Wood Stone Interlock Options supplement in the Manuals section on the website, **woodstone-corp.com**, or contact Wood Stone for additional information.

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WHAT TYPE OF WOOD SHOULD YOU USE TO FIRE YOUR SOLID FUEL COOKING EQUIPMENT?

The answer to this question depends on several considerations: geographical location, availability and relative cost of various fuelwood species and individual preferences regarding the flavor qualities of various wood types. There are a wide variety of good fuelwood species in all geographic locations. Each species of wood has different characteristics. The table below should help weigh the pros and cons of various types of wood. Wood from conifers (pine trees) is not recommended due to its poor fuelwood characteristics (low weight, low-med heat, poor coaling, high sparking and high residual creosote).

Wood Type	Heat	Lbs/Cord	Lighting	Coaling	Sparks	Fragrance*
Alder	Med-Low	2500	Fair	Good	Moderate	Slight
Apple	High-Med	4400	Fair	Excellent	Few	Excellent
Ash	High	3500	Fairly Difficult	Good-Excellent	Few	Slight
Beech	High	3800	Difficult	Excellent	Few	Good
Birch (white)	Medium	3000	Easy	Good	Moderate	Slight
Cherry	Medium	2000	Fair	Excellent	Few	Excellent
Elm	High	2300	Very Difficult	Good	Very Few	Fair
Hickory	Very High	4200	Fairly Difficult	Excellent	Moderate	Excellent
Maple (red)	High-Med	3200	Fairly Difficult	Excellent	Few	Good
Maple (sugar)	High	3700	Difficult	Excellent	Few	Good
Mesquite	Very High		Very Difficult	Excellent	Many	Excellent
Oak (live)	Very High	4600	Very Difficult	Excellent	Few	Fair
Oak (red)	High	3700	Difficult	Excellent	Few	Fair
Oak (white)	Very High	4200	Fairly Difficult	Excellent	Few	Fair
Pecan	High		Fair	Good	Few	Good

*The desirability of various fragrances is largely a matter of personal preference.

Whichever type of wood you use, **MAKE SURE YOU KNOW THE MOISTURE CONTENT.** Properly seasoned wood contains 20% moisture or less. If wood contains more than 20% moisture, it should not be accepted for use. Wood should be stored off the ground and out of the rain in an environment that allows good air circulation so that the drying process can continue. Wet wood is the most common operational difficulty associated with wood-fired cooking equipment. Wood Stone's moisture meter can prevent you from paying for water when you thought you were paying for wood (see optional accessories).

Calculate your approximate monthly, daily and hourly fuel-wood costs using the following formulas:
The cost of well-seasoned hardwood varies greatly with geographical location.

Cost per month = $A \times C$

Cost per day = $\frac{A \times C}{30}$

Cost per hour = $\left(\frac{A \times C}{\frac{30}{12}}\right)$

A = Cost/Cord (from wood supplier)
B = lbs./Cord (from above table)
C = Cords/Month (from experience, or call Wood Stone for an estimate

When burned, all wood releases approximately 6500 BTU's/lb. so it is better to compare the price of wood by the pound rather than by the cord. A full cord of wood measures 4' x 4' x 8' when stacked.

Cost per lb = $\frac{A}{B}$

Do not use pressed wood products in Wood Stone food service equipment, they may damage the ceramics.

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ALL WARRANTY SERVICE MUST BE PRE-APPROVED BY WOOD STONE

Wood Stone warrants its equipment to the original purchaser against defects in material or manufacture for a period of one year from the original date of purchase, subject to the following exclusions and limitations.

Please contact the factory first at 1.800.988.8103 or 1.360.650.1111, seven days a week. Our normal business hours are 8am to 4:30pm PST Monday–Friday. If calling during non-business hours, follow the recorded instructions for emergency service and a Wood Stone technician will get back to you promptly.

EXCLUSIONS

The warranties provided by Wood Stone do not apply in the following instances:

1. In the event that the equipment is improperly installed. Proper installation is the responsibility of the installer; proper installation procedures are prescribed by the Wood Stone installation and operation manual.
2. In the event the equipment is improperly or inadequately maintained. Proper maintenance is the responsibility of the user; proper maintenance procedures are prescribed in the Wood Stone Installation and Operation Manual. Burner problems resulting from debris or ash in the burner well will not be covered by the warranty. Call with questions regarding maintenance frequency.
3. In the event that the failure or malfunction of the appliance or any part thereof is caused by abnormal or improper use or is otherwise not attributable to defect in material or manufacture.
4. In the event that the appliance, by whatever cause, has been materially altered from the condition in which it left the factory.
5. In the event that the rating plate has been removed, altered or obliterated.
6. On parts that would be normally worn or replaced under normal conditions.
7. Normal cracking due to expansion and contraction stress relief in the ceramic firebox.
8. **In the event that pressed log products of any type have been burned in the equipment.**
9. Damage resulting from the use of chemical cleaning products in the oven, as well as any damage from liquids or chemicals, including water, being poured or sprayed into the oven.

If any oral statements have been made regarding this appliance, such statements do not constitute warranties and are not part of the contract of sale. This Limited Warranty constitutes the complete, final and exclusive statement with regard to warranties.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR WARRANTY AGAINST LATENT DEFECTS

LIMITATIONS OF LIABILITY

In the event of warranty claim or otherwise, the sole obligation of Wood Stone shall be the repair and/or replacement, at the option of Wood Stone, of the appliance or component or part thereof. Such repair or replacement shall be at the expense of Wood Stone with the exception of travel over 100 miles or two hours, overtime, and holiday charges which shall be at the expense of the purchaser. Any repair or replacement under this warranty does not constitute an extension of the original warranty for any period of the appliance or for any component or part thereof. Parts to be replaced under this warranty will be repaired or replaced at the option of Wood Stone with new or functionally operative parts. The liability of Wood Stone on any claim of any kind, including claims based on warranty, expressed or implied, contract, negligence, strict liability or any other theories shall be solely and exclusively the repair or replacement of the product as stated herein, and such liability shall not include, and purchaser specifically renounces any rights to recover, special, incidental, consequential or other damages of any kind whatsoever, including, but not limited to, injuries to persons or damage to property, loss of profits or anticipated profits, or loss of use of the product.

TO SECURE WARRANTY SERVICE

If you claim a defect covered by this Limited Warranty, contact:
Wood Stone Corporation, Attn: Service Department, 1801 W. Bakerview Rd., Bellingham, WA 98226 USA

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